Syllabus: MA 444/544 OR – Vector Analysis Summer, 2020

Class meets: M-W-F 1:00–2:20, REMOTE

Instructor: Dr. Nándor Simányi

Office: UH-4014, phone: 934-2154, E-mail: simanyi@uab.edu

Office hours/consulting: By e-mail or by appointment

Web site: https://people.cas.uab.edu/~simanyi/teaching/MA-444-544/

Course Description. (3 credit hours) Vector fields, gradient, divergence, curl, the Laplacian, calculation with cylindrical and spherical co-ordinates. Line integrals, potentials, conservative fields, vector potentials, surfaces, surface and volume integrals. The Divergence Theorem, Green's formulas, the Fundamental Theorem of Vector Analysis, Green's and Stokes' theorems. (Essentially, chapters 3–5 of the textbook.)

Materials: Textbook: Introduction to Vector Analysis by Harry F. Davis, Seventh Edition, Hawkes Publishing.

Prerequisite. Calculus III (MA 227) with a grade of C or better.

Assessment Procedures. Student achievement will be assessed by any or all of several measures: short weekly quizzes, two major midterm tests, and a comprehensive final examination. A numerical grade is given on each item. All quizzes and midterm tests take place on Fridays. Recommended homework exercises will give you a good opportunity to practice your knowledge, while also orienting you towards the style of problems you can expect on the midterm and final exams.

Grading Policy. Student achievement on the items assessed will be used to determine the final grade. The percentage of the final numerical grade (0-100 scale) assigned to each item is as follows:

Final exam: 40%, major tests: 20% each, quizzes: 20%. The final (aggregate) numerical score (percentage) will be curved.

Presumptive schedule of on-line tests:

Test 1: June 26

Test 2: July 17

Final: August 10, 1:30--4:00